

WHAT IS CLAIMED IS:

1. The zirconia sintered body comprising tetragonal zirconia, wherein a full width at half maximum at (111) plane of the tetragonal zirconia obtained by X-ray diffraction pattern measured under following conditions is from 0.38 to 4 degree.

Conditions:

Radiation Source: CuK $\alpha$  beam,

Voltage · Amplitude : 40 kV × 30 mA,

10 Monochromator: Graphite ,

Divergence Slit: 1.0 degree,

Scattering Slit: 1.0 degree,

Detector Slit: 0.3 degree,

Step Size: 0.2 degree,

15 Time/step: continuous,

Background Correction: made,

Scan Speed: 0.4 degree/minute.

2. The zirconia sintered body according to Claim 1, wherein the full width at half maximum at (111) plane of the 20 tetragonal zirconia is from 0.4 to 2 degree.

3. The zirconia sintered body according to Claim 1 or 2, wherein the full width at half maximum at (111) plane of the tetragonal zirconia is 1 degree or less.

4. The zirconia sintered body according to Claim 1, 25 wherein a ratio of the tetragonal zirconia in the zirconia

sintered body is 90 % by volume or more.

5. The zirconia sintered body according to Claim 1,  
wherein an average grain size of the zirconia sintered body  
is from 0.01 to 0.3  $\mu\text{m}$ .

5 6. The zirconia sintered body according to Claim 1,  
wherein a density of the zirconia sintered body is 6 g/cm<sup>3</sup>  
or more.

7. The zirconia sintered body according to Claim 6,  
wherein the density of the zirconia sintered body is from 6  
10 to 6.1 g/cm<sup>3</sup>.

8. The zirconia sintered body according to Claim 1,  
wherein the zirconia sintered body contains a stabilizer.

9. The zirconia sintered body according to Claim 8,  
wherein the stabilizer is at least one selected from the group  
15 consisting of Y<sub>2</sub>O<sub>3</sub>, CeO<sub>2</sub>, MgO, CaO, TiO<sub>2</sub>, Yb<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub> and Ho<sub>2</sub>O<sub>3</sub>.

10. The zirconia sintered body according to Claim 1,  
wherein the zirconia sintered body contains Al<sub>2</sub>O<sub>3</sub>.

11. A method for producing the zirconia sintered body,  
wherein the method comprises steps of; molding zirconia powder  
20 having an average particle diameter of from 0.1 to 0.6  $\mu\text{m}$ ,  
a maximum particle diameter of 5  $\mu\text{m}$  or less and a substantially  
polyhedral shape, and then sintering the molded green body  
under the temperature of from 1200 to 1400 °C.

12. The method according to Claim 11, wherein the  
25 zirconia powder contains monoclinic crystal.

13. The method according to Claim 12, wherein a ratio of the monoclinic crystal in the zirconia powder is 70 % by volume or more.